

CLAIMS

[0057] What is claimed is:

1. An apparatus comprising:
a tuner to tune an oscillation frequency of an oscillator to a value between a first free-running frequency of a first oscillation tank and a second free-running frequency of a second oscillation tank.
2. The apparatus of claim 1, wherein the tuner comprises a scaler to produce a first gain in a first path of the oscillator associated with the first oscillation tank and to produce a second gain in a second path of said oscillator associated with the second oscillation tank.
3. The apparatus of claim 2, wherein the tuner comprises an adder to add first and second signal components passing through said first and second paths, respectively.
4. The apparatus of claim 2, wherein the first and second gains are complementary.
5. The apparatus of claim 4, wherein a sum of said first and second gains is substantially constant.
6. The apparatus of claim 5, wherein the sum of said first and second gains is substantially equal to one.
7. The apparatus of claim 2, wherein the tuner is able to control the relative values of said first and second gains.
8. The apparatus of claim 2, wherein the scaler comprises first and second amplifiers on said first and second paths, respectively, to provide said first and second gains, respectively.
9. The apparatus of claim 2, wherein the scaler is able to control first and second voltages applied to said first and second amplifiers, respectively.

10. The apparatus of claim 3, wherein the first path comprises a first transconductor and wherein the second path comprises a second transconductor.
11. A wireless communication device comprising:
a dipole antenna to send and receive wireless communication signals; and
an oscillator comprising a tuner to tune an oscillation frequency of said oscillator to a value between a first free-running frequency of a first oscillation tank and a second free-running frequency of a second oscillation tank.
12. The wireless communication device of claim 11, wherein the tuner comprises a scaler to produce a first gain in a first path of said oscillator associated with the first oscillation tank and to produce a second gain in a second path of said oscillator associated with the second oscillation tank.
13. The wireless communication device of claim 12, wherein the tuner comprises an adder to add first and second signal components passing through said first and second paths, respectively.
14. The wireless communication device of claim 12, wherein the first and second gains are complementary.
15. The wireless communication device of claim 14, wherein a sum of said first and second gains is substantially constant.
16. The wireless communication device of claim 15, wherein the sum of said first and second gains is substantially equal to one.
17. The wireless communication device of claim 12, wherein the tuner is able to control the relative values of said first and second gains.

18. The wireless communication device of claim 12, wherein the scaler comprises first and second amplifiers on said first and second paths, respectively, to provide said first and second gains, respectively.
19. The wireless communication device of claim 12, wherein the scaler is able to control first and second voltages applied to said first and second amplifiers, respectively.
20. The wireless communication device of claim 13, wherein the first path comprises a first transconductor and wherein the second path comprises a second transconductor.
21. A method comprising:
tuning a frequency of an oscillator to a value between a first free-running frequency of a first oscillation tank and a second free-running frequency of a second oscillation tank.
22. The method of claim 21, wherein tuning the frequency comprises:
producing a first gain in a first path associated with the first oscillation tank; and
producing a second gain in a second path associated with the second oscillation tank.
23. The method of claim 22, wherein tuning the frequency comprises adding first and second signal components passing through said first and second paths, respectively.
24. The method of claim 22, wherein producing said first and second gains comprises producing first and second complementary gains.
25. The method of claim 24, wherein a sum of said first and second gains is substantially constant.
26. The method of claim 25, wherein the sum of said first and second gains is substantially one.

27. The method of claim 22, wherein tuning the frequency comprises controlling relative values of said first and second gains.